## IN THE CLAIMS

Please cancel claims 38-46 as follows:

1. (PREVIOUSLY PRESENTED) An apparatus for receiving a non-coherently layered modulation signal comprising a lower layer signal non-coherently layered with an upper layer signal, comprising:

a tuner for receiving the non-coherently layered modulation signal and producing a non-coherently layered in-phase signal and a non-coherently layered quadrature signal therefrom;

an analog-to-digital converter for digitizing the non-coherently layered in-phase signal and the non-coherently layered quadrature signal; and

a processor for decoding the non-coherently layered in-phase signal and the non-coherently layered quadrature signal to produce the upper layer signal and the lower layer signal.

- (ORIGINAL) The apparatus of Claim 1, wherein the processor comprises a logic circuit.
- 3. (PREVIOUSLY PRESENTED) The apparatus of Claim1, further comprising a first decoder for and decoding the upper layer signal to be displayed, and a second decoder for decoding the lower layer signal.
- 4. (PREVIOUSLY PRESENTED) The apparatus of Claim 1, wherein decoding by the processor performs frequency acquisition on the non-coherently layered quadrature signal.
- 5. (PREVIOUSLY PRESENTED) The apparatus of Claim 1, wherein decoding by the processor match filters the non-coherently layered in-phase signal and the non-coherently layered quadrature signal.
  - 6. (CANCELED)

- 7. (PREVIOUSLY PRESENTED) The apparatus of Claim 1, wherein the processor produces an ideal upper layer signal including an ideal in-phase upper layer signal and an ideal quadrature upper layer signal from the decoded upper layer signal and subtracts the ideal in-phase upper layer signal and the ideal quadrature upper layer signal from the layered in-phase signal and the layered quadrature signal, respectively, to produce a lower layer in-phase signal and a lower layer quadrature signal of a lower one of the one or more discrete layer signals.
- 8. (PREVIOUSLY PRESENTED) The apparatus of Claim 7, wherein the processor demodulates and decodes the lower layer in-phase signal and the lower layer quadrature signal to produce the lower layer signals.
- 9. (ORIGINAL) The apparatus of Claim 7, wherein the processor match filters the lower layer in-phase signal and the lower layer quadrature signal.
- 10. (ORIGINAL) The apparatus of Claim 7, wherein the layered in-phase signal and the layered quadrature signal are delayed to synchronize the subtraction.
- 11. (ORIGINAL) The apparatus of Claim 10, wherein delaying the layered in-phase signal and the layered quadrature signal are delayed by correlating to the ideal in-phase upper layer signal and the ideal quadrature upper layer signal.
- 12. (ORIGINAL) The apparatus of Claim 7, wherein producing the ideal upper layer signal comprises signal processing the ideal in-phase upper layer signal and the ideal quadrature upper layer signal.
- 13. (ORIGINAL) The apparatus of Claim 12, wherein signal processing the ideal inphase upper layer signal and the ideal quadrature upper layer signal comprises finite impulse response matched filtering the ideal in-phase upper layer signal and the ideal quadrature upper layer signal.

- 14. (ORIGINAL) The apparatus of Claim 12, wherein signal processing the ideal inphase upper layer signal and the ideal quadrature upper layer signal comprises applying a signal map to the ideal in-phase upper layer signal and the ideal quadrature upper layer signal, the signal map accounting for transmission distortions of the layered signal.
- 15. (ORIGINAL) The apparatus of Claim 12, wherein signal processing the ideal inphase upper layer signal and the ideal quadrature upper layer signal comprises amplitude and phase
  matching the ideal in-phase upper layer signal and the ideal quadrature upper layer signal with the
  layered in-phase signal and the layered quadrature signal, respectively.
- 16. (PREVIOUSLY PRESENTED) A processor for decoding a non-coherently layered modulation signal comprising a lower layer signal non-coherently layered with an upper layer signal into the upper layer signal and the lower layer signal, comprising:
- a first demodulator and first decoder for demodulating and decoding the upper layer signal from the non-coherently layered modulation signal and providing the demodulated and decoded upper layer signal at a first output;
- an encoder for generating an ideal upper layer signal from the decoded upper layer signal;
  a signal processor for modifying the ideal upper layer signal to characterize transmission and
  processing effects;
- a subtractor for subtracting the modified ideal upper layer signal from the non-coherently layered modulation signal to produce the lower layer signal; and
- a second demodulator and second decoder for demodulating and decoding the lower layer signal and providing the decoded lower layer signal at a second output.
- 17. (PREVIOUSLY PRESENTED) The processor of Claim 16, further comprising a delay function correlated to an output of the signal processor to appropriately delay the non-coherently layered modulation signal to synchronize amplitude and phase matching of the modified ideal upper layer signal and the layered signal.

- 18. (PREVIOUSLY PRESENTED) The processor of Claim 16, further comprising a delay function correlated to an output of the signal processor to appropriately delay the non-coherently layered modulation signal to synchronize subtraction of the modified ideal upper layer signal and the layered signal.
- 19. (ORIGINAL) The processor of Claim 16, wherein the signal processor performs finite impulse response matched filtering on the ideal upper layer signal.
- 20. (ORIGINAL) The processor of Claim 16, wherein the signal processor performs finite impulse response matched filtering on the delayed layered signal.
- 21. (ORIGINAL) The processor of Claim 16, wherein the signal processor applies a signal map to the ideal upper layer signal.
- 22. (ORIGINAL) The processor of Claim 16, wherein the signal processor amplitude and phase matches the ideal upper layer signal with the layered signal.
- 23. (PREVIOUSLY PRESENTED) A method of decoding a non-coherently layered modulation signal comprising a lower layer signal non-coherently layered with an upper layer signal, comprising the steps of:

receiving the non-coherently layered modulation signal and producing a non-coherently layered in-phase signal and a non-coherently layered quadrature signal therefrom;

digitizing the non-coherently layered in-phase signal and the non-coherently layered quadrature signal; and

decoding the digitized non-coherently layered in-phase signal and the non-coherently layered quadrature signal to produce the upper layer signal and the lower layer signal.

- 24. (ORIGINAL) The method of Claim 23, wherein the step of decoding is performed by a logic circuit.
- 25. (ORIGINAL) The method of Claim 23, wherein the step of decoding includes frequency acquisition on the layered quadrature signal.

- 26. (PREVIOUSLY PRESENTED) The method of Claim 23, further comprising receiving and decoding the upper layer signal and the lower layer signal.
- 27. (PREVIOUSLY PRESENTED) The method of Claim 23, wherein the step of decoding comprises matched filtering the non-coherently layered in-phase signal and the noncoherently layered quadrature signal.
- 28. (PREVIOUSLY PRESENTED) The method of Claim 23, wherein the step of decoding comprises demodulating and decoding an upper layer signal from the non-coherently layered in-phase signal and the non-coherently layered quadrature signal to produce the upper layer signal.
- 29. (PREVIOUSLY PRESENTED) The method of Claim 28, wherein the step of decoding comprises producing an ideal upper layer signal including an ideal in-phase upper layer signal and an ideal quadrature upper layer signal from the decoded upper layer signal and subtracting the ideal in-phase upper layer signal and the ideal quadrature upper layer signal from the non-coherently layered in-phase signal and the non-coherently layered quadrature signal, respectively, to produce a lower layer in-phase signal and a lower layer quadrature signal of the lower layer signals.
- 30. (PREVIOUSLY PRESENTED) The method of Claim 29, wherein the step of decoding comprises demodulating and decoding the lower layer in-phase signal and the lower layer quadrature signal to produce the lower one of the one or more discrete layer signals.
- 31. (ORIGINAL) The method of Claim 29, wherein the step of decoding comprises match filtering the lower layer in-phase signal and the lower layer quadrature signal.
- 32. (ORIGINAL) The method of Claim 29, wherein the step of decoding comprises delaying the layered in-phase signal and the layered quadrature signal to synchronize the subtraction.
- 33. (PREVIOUSLY PRESENTED) The method of Claim 32, wherein delaying comprises correlating the layered in-phase signal and the layered quadrature signal.

- 34. (ORIGINAL) The method of Claim 29, wherein producing the ideal upper layer signal comprises signal processing the ideal in-phase upper layer signal and the ideal quadrature upper layer signal.
- 35. (ORIGINAL) The method of Claim 34, wherein signal processing the ideal in-phase upper layer signal and the ideal quadrature upper layer signal comprises pulse shaping the ideal in-phase upper layer signal and the ideal quadrature upper layer signal.
- 36. (ORIGINAL) The method of Claim 34, wherein signal processing the ideal in-phase upper layer signal and the ideal quadrature upper layer signal comprises applying a signal map to the ideal in-phase upper layer signal and the ideal quadrature upper layer signal, the signal map accounting for transmission distortions of the layered signal.
- 37. (PREVIOUSLY PRESENTED) The method of Claim 34, wherein signal processing the ideal in-phase upper layer signal and the ideal quadrature upper layer signal comprises amplitude and phase matching the ideal in-phase upper layer signal and the ideal quadrature upper layer signal with the non-coherently layered in-phase signal and the non-coherently layered quadrature signal, respectively.
  - 38. (CANCELED)
  - 39. (CANCELED)
  - 40. (CANCELED)
  - 41. (CANCELED)
  - 42. (CANCELED)
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- 44. (CANCELED)
- 45. (CANCELED)
- 46. (CANCELED)